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New records of the genus *Eusterinx* Förster (Hymenoptera: Ichneumonidae: Orthocentrinae) from the Afrotropical Region, with description of four new species from Central African Republic, South Africa and Uganda

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Abstract

The new species *Eusterinx dzanga* Humala & van Noort, **sp. nov.** from Central African Republic, *Eusterinx kirkwoodi* Humala & van Noort, **sp. nov.** and *Eusterinx gamka* van Noort & Humala, **sp. nov.** from South Africa, and *Eusterinx kibale* van Noort & Humala, **sp. nov.** from Uganda belonging to the subgenus *Ischyracis* are described and illustrated. An illustrated identification key to the known Afrotropical *Eusterinx* species is provided. Online Lucid identification keys and images of all the species treated herein are available at: http://www.waspweb.org.

Keywords

Darwin wasps, holotype, *Ischyracis*, key, parasitoids, taxonomy

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Introduction

Eusterinx Förster, 1869 is a moderately large genus of Darwin wasps belonging to the subfamily Orthocentrinae, though it was erroneously placed in the subfamily Microleptinae in the catalogue of world Ichneumonidae (Yu et al. 2016). It is known from all regions of the world and to date, there are 58 described extant species (Gauld 1984; Yu et al. 2016; Humala 2016, 2024, 2025; Humala and Ruiz-Cancino 2017; Humala et al. 2018). The biology of the genus is poorly known. A few species of *Eusterinx* have been reported to be koinobiont endoparasitoids of keroplatid gnats from the genera *Orfelia* Costa and *Cerotelion* Rondani (Diptera, Keroplatidae) (Dasch 1992).

Representatives of the subgenus *Ischyracis* are small to medium-sized ichneumonids (body length 3.2–8.4 mm, forewing length 2.5–6.5 mm) having slender legs and body, enlarged eyes with inner orbits clearly convergent to clypeus in females and to a lesser extent in males; strong notauli, propodeum with a pair of well-developed apophyses; males have one concave tyloid on the 6th flagellomere.

According to the studies of van Rossem, *Eusterinx* is divided into six subgenera: *Dallatorrea* Ashmead, *Eusterinx* Förster, *Holomeristus* Förster, *Ischyracis* Förster and *Trestis* Förster, earlier considered as valid genera and synonymized by Townes (1971), and *Divinatrix* van Rossem (van Rossem 1987). It must be noted that there is a considerable degree of morphological diversity in the genus, and the exact boundaries between some subgenera have not yet been well defined. For instance, Dasch in the monograph devoted to the Nearctic fauna (Dasch 1992) considered all existing subgenera of *Eusterinx* to be synonyms, recognizing species-groups instead. In general, accepting van Rossem's division of the genus into subgenera, a number of changes were subsequently made to the species composition in some subgenera (Humala 2007; Khalaim et al. 2019).

The four new species from Africa belong to the subgenus *Ischyracis*. The subgenus *Dallatorrea* with four known species (Palaearctic *Eusterinx circaea* Rossem, 1982 and Nearctic *E. rufulus* (Provancher, 1879); *E. armata* (Ashmead, 1902); *E. recurvata* Dasch, 1992) was recently synonymized under *Ischyracis* (Humala 2024). To date, eleven species are known in this subgenus, in addition to the four Holarctic species previously included in *Dallatorrea*, these are: Holarctic *E.* (*I.*) *bispinosa* (Strobl, 1901), Oriental *E.* (*I.*) *ganica* Sheng et Sun, 2013 from China, three East Palaearctic species: *E.* (*I.*) *fulvipes* Humala et Lee, 2017, *E.* (*I.*) *petiolata* Humala et Lee, 2017 and *E.* (*I.*) *rufithorax* Humala et Lee, 2017 from South Korea, *E.* (*I.*) *tenuiventris* Humala et Ruiz, 2017 from Mexico, and also described last year *E.* (*I.*) *africana* Humala, 2024 from South Africa, which is the only species of *Eusterinx* recorded from the Afrotropical region. The key to the known *Ischyracis* species of the world fauna was provided there as well (Humala 2024).

This genus is very rare in the Afrotropical region, as only one specimen of the genus *Eusterinx* was found earlier in a previous study (Humala 2024), when treating quite a large amount of material from Africa (South Africa, Ethiopia, Kenya and Uganda). There were, however, seven curated specimens of the subgenus *Ischyracis* emanating from the second author's extensive collections of Darwin wasps acquired over the last 33 years from continuous inventory surveys conducted in Africa (van Noort 2025a). These seven specimens were determined by Gavin Broad in 2015 when he visited SAMC, from

among 770 specimens of Orthocentrinae that to date had been extracted and sorted from the huge number of bulk inventory survey samples stored in SAMC. These continuous invertebrate inventory surveys conducted by the second author across a range of habitats in South Africa and further afield in Africa totaled 101 866 Malaise trap days (= 279 Malaise trap years), producing an estimated 57.15 million arthropod specimens, 5.9 million Hymenoptera, and 509 330 Ichneumonidae, all of which are preserved in the Iziko SAMC entomology collection (van Noort 2022, 2023, 2025a). The subgenus *Ischyracis* is clearly rare given that only seven specimens have been produced from this extensive sampling regime, validating description of new species based on single specimens. There is the possibility that further specimens of the subgenus *Ischyracis* reside in the many unsorted second authors samples deposited in SAMC. There are a few additional *Ischyracis* specimens from Cameroon, Uganda and Zimbabwe stored in the Natural History Museum in London (Gavin Broad pers. comm.), which will be dealt with in a follow up paper.

The purpose of this article is to report new findings of the genus *Eusterinx* from the Afrotropical region housed in the Iziko South African Museum collection, as well as to describe new species and provide an illustrated key to identifying Afrotropical *Ischyracis* species.

Material and methods

The original material for this study was obtained from years of research conducted using portable Malaise traps and yellow pan traps.

Photographs. Images were acquired at the South African Museum, Cape Town (SAMC) with a Leica LAS 4.9 imaging system, comprising a Leica® Z16 microscope (using either a 2× or 5× objective) with a Leica DFC450 Camera and 0.63× video objective attached; diffused lighting was achieved using a Leica LED5000 HDI dome; and the imaging process, using an automated Z-stepper, was managed using the Leica Application Suite V 4.9 software. All images presented in this paper, as well as supplementary images, are available on WaspWeb at www.waspweb.org (van Noort 2025b).

Morphological terminology generally follows Broad et al. (2018).

OOL – ocular-ocellar line, **POL** – postocellar line

The type specimens have been deposited in the collection of Iziko South African Museum, Cape Town, South Africa.

Abbreviation of depository: **SAMC** South African Museum, Iziko Museums of South Africa, Cape Town, South Africa.

Results

Taxonomy

Family Ichneumonidae Latreille, 1802
Subfamily Orthocentrinae Förster, 1869
Genus *Eusterinx* Förster, 1869

Subgenus *Ischyracis* Förster, 1869

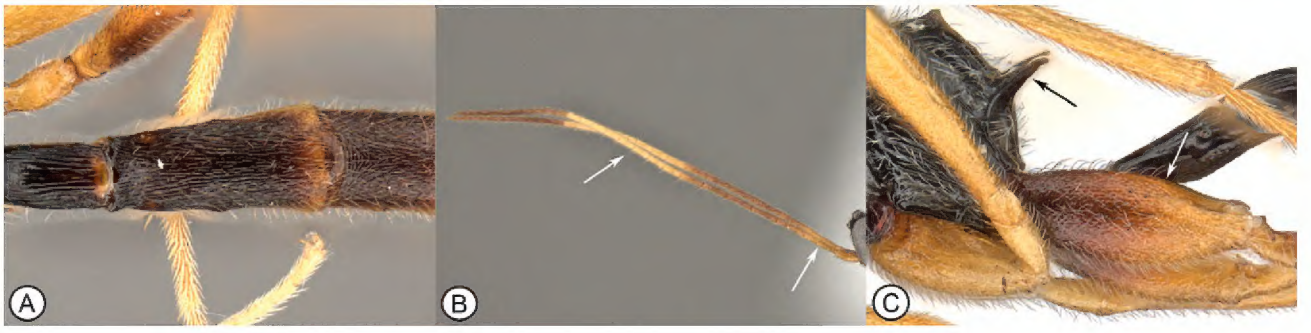
Acanthostroblia Roman, 1925.
Cymodusoides Viereck, 1925.
Stroblia Schmiedeknecht, 1911.
Dallatorrea Ashmead, 1902.

Type species. *Eusterinx* (*Ischyracis*) *bispinosa* (Strobl, 1901)

Diagnosis. The subgenus *Ischyracis* is recognizable by the following characters: propodeum with well-developed apophyses formed at the junction of lateral longitudinal carina and posterior transverse carina; eye large or very large, strongly convex; female inner orbits distinctly convergent to clypeus (to a lesser extent in males); male with concave tyloid on 6th flagellomere. Fore wing with or without petiolate areolet.

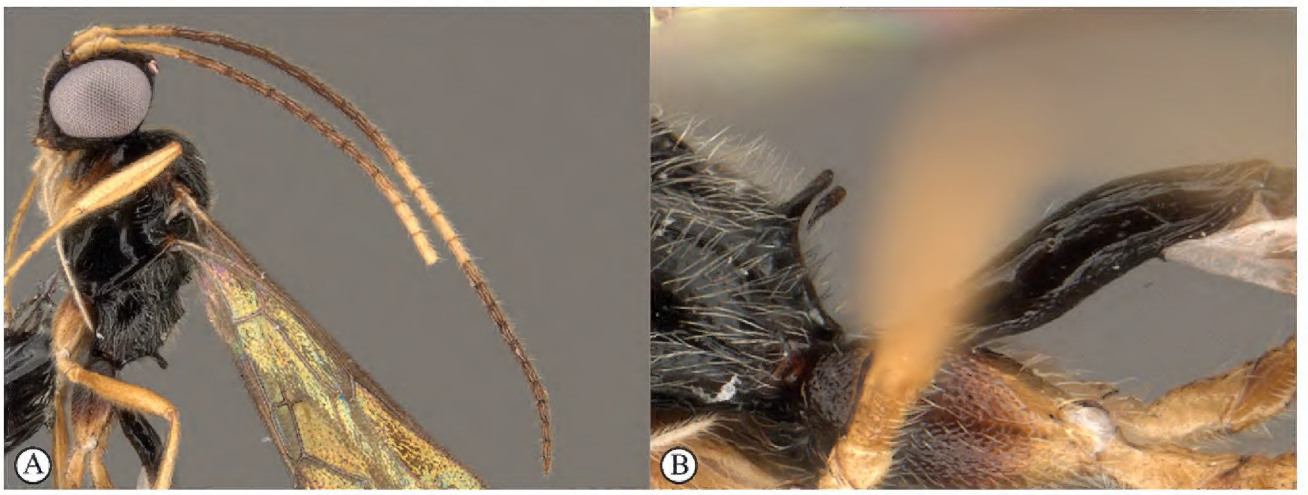
Key to *Eusterinx* (*Ischyracis*) species of the Afrotropical fauna

1 T2 slender, 2.15× as long as maximum width posteriorly (A); first flagellomere 7.0× as long as wide (B), flagellum with wide pale band on flagellomeres 7–14 (B); propodeal apophyses nearly as long as hind coxal width (C); hind femur slender, 6.3× as long as wide (CAR) ..... ***E. dzanga* sp. nov.**



– T2 less slender, 1.2– 1.6× as long as maximum width posteriorly (a); first flagellomere 5.0– 5.5× as long as wide (b), flagellum either without pale band (b), or with narrower pale band on flagellomeres 11–14 (c); propodeal apophyses shorter, at most 0.6× hind coxal width (d); hind femur stouter, 5.0–5.7× as long as wide **2**

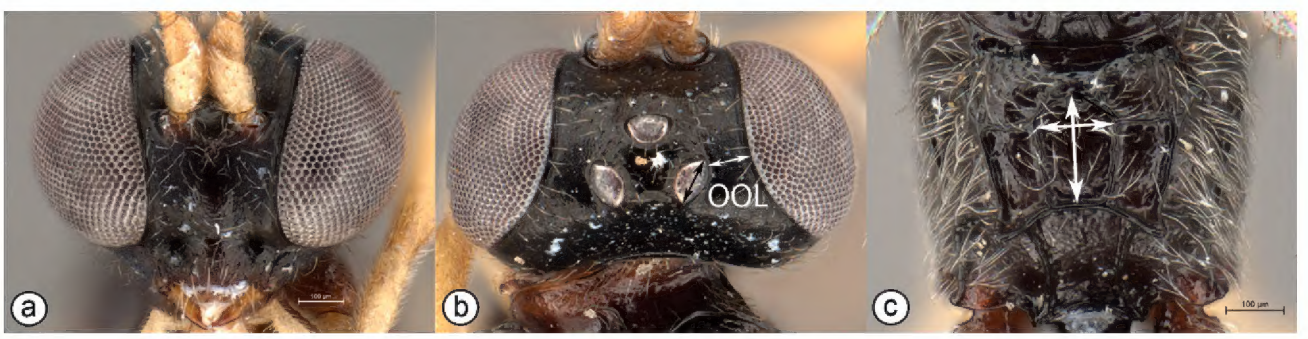
2 Flagellum with pale band on flagellomeres 11–14 (A); apophyses elongate, terminally rounded, length equivalent to T1 height in lateral view (B) (Uganda) ..... ***E. kibale* sp. nov.**



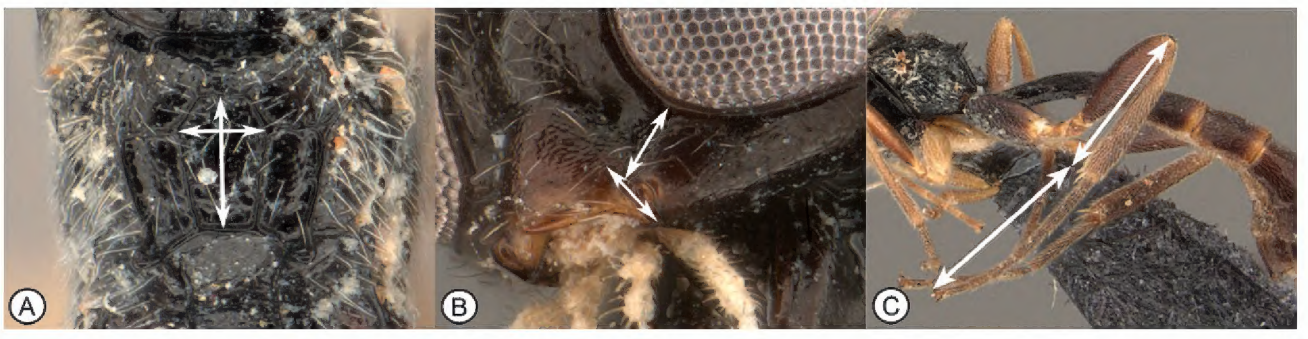
– Flagellum without pale band (a); apophyses short, terminally acute, length equal to or less than 0.7× T1 height in lateral view (b) **3**

3 Inner orbits strongly convergent to clypeus (A); ocellar-ocular line longer than maximum diameter of lateral ocellus – as 28 : 27 (B); area superomedia elongate, 2.4× as long as maximum wide (C) (South Africa) ..... ***E. africana*** **Humala**

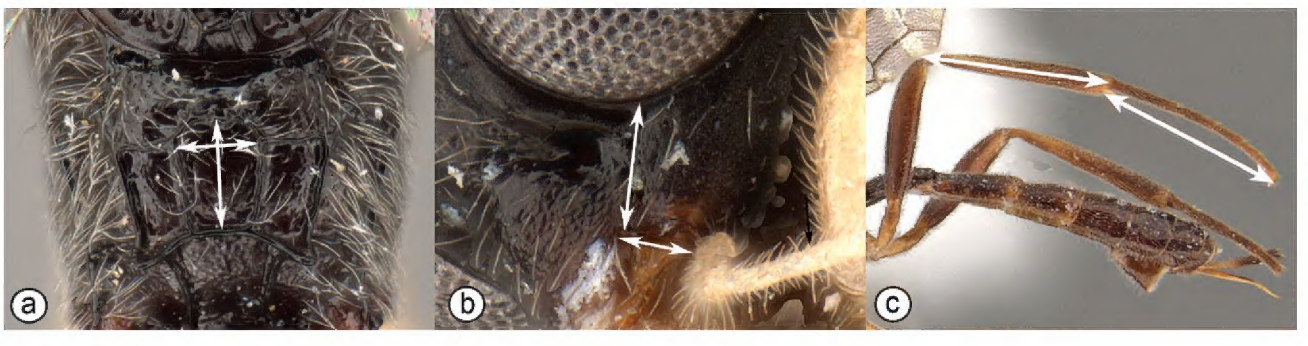
– Inner orbits moderately convergent to clypeus (a); ocellar-ocular line shorter than or equal to maximum diameter of lateral ocellus (c); area superomedia 1.3 -1.6× as long as maximum width (c) **4**



4 Area superomedia 1.6× as long as maximum width (A); malar space short 1.2× as long as basal mandibular width (B); hind tarsus clearly longer than hind tibia (South Africa) ..... ***E. gamka*** **sp. nov.**



– Area superomedia 1.3× as long as maximum wide (a); malar space longer 1.75× as long as basal mandibular width (b); hind tarsus as long as hind tibia (South Africa) ..... ***E. kirkwoodi*** **sp. nov.**



***Eusterinx* (*Ischyracis*) *dzanga* Humala & van Noort, sp. nov.**
https://zoobank.org/EAEAE35E-E465-40D1-BED6-7496A446B2B8
Figs 1, 2

Material examined. *Holotype*: Central African Republic • ♀; Prefecture Sangha-Mbaéré, Parc National de Dzanga-Ndoki, 38.6 km 173° S Lidjombo; 2°21.60'N, 16°09.20'E; 350 m, 26–27 May 2001; S. van Noort leg.; Lowland rainforest, Malaise trap, CAR01-M225, *Eusterinx* (*Ischyracis*) det. G. Broad 2015; IMAGED WaspWeb LAS 4.9 SAMC 2024; SAM-HYM-P046838 (SAMC).

Description. Female (holotype). Body length 5.2 mm, fore wing length 3.3 mm (Fig. 1A).

Head. Head 1.3× as wide as high in anterior view; eyes glabrous, large and strongly convex; frons shagreen with sparse setae; inner orbits strongly convergent downwards; face nearly polished with sparse setae; maximum face width at level of antennal sockets, 1.1× as high, 0.38× as wide as head (Fig. 1C). Antenna with 24 elongate flagellomeres, all flagellomeres at least twice as long as wide; first flagellomere ca. 7.0× as long as wide; second flagellomere 0.8× as long as first flagellomere. Malar space coriaceous, about 1.25× as long as basal width of mandible, subocular sulcus distinct; anterior tentorial pits open; clypeus convex, narrow, 0.5× as high as wide. Mandibles slender, strongly twisted inwards and tapered apically, lower tooth small and invisible in front view. Maxillary palps very long, reaching hind coxa. Occiput nearly polished; occipital carina present dorsally, absent laterally; temple 0.2× as long as eye length. Ocelli of moderate size; ratio of OOL : maximum diameter of lateral ocellus : POL as 19 : 22 : 18 (Fig. 1B). Head distinctly narrowed behind eyes, temple short, 0.24× as long as eye width.

Mesosoma. Mesosoma 1.5× as long as maximum height; pronotum polished with distinct epomia; mesoscutum granulate, covered with dense setae; notauli well developed, meeting in the center of mesoscutum and continuing as a median longitudinal carina not reaching scuto-scutellar groove (Fig. 2B). Notauli anteriorly with small protrusion to the outside of the base (Figs 1E, 2B); epicnemial carina complete ventrally, almost reaching upper part of the mesopleuron; mesopleuron polished and mostly glabrous with short sternaulus anteriorly; metapleuron coriaceous. Propodeum nearly smooth with all carinae developed and with a pair of strong apophyses formed at junction of lateral longitudinal carina and posterior transverse carina (Fig. 2A, C). Apophyses somewhat flattened dorsoventrally and rounded apically, nearly as long as hind femur width. Anterior transverse carina forming a crest; area basalis not closed anteriorly, area superomedia elongate, narrowing posteriorly, 1.9× as long as maximum wide (Fig. 2C). Spiracles round and small (Fig. 1E).

Legs. Legs very slender, hind coxa granulate, hind femur 6.3× as long as wide, tibial spurs short and slender, hind basitarsus 0.4× as long as hind tibia; ratio of hind tarsomeres as 35 : 21 : 14 : 8 : 12 (Fig. 1A); claws simple.

Wings. Wings comparatively narrow (Fig. 2D). Fore wing without areolet (vein 3*rs-m* absent), radius (vein 2*r&Rs*) originates from posterior 0.6 of stigma, nervulus (vein 1*cu-a*) slightly antefurcal, postnervulus intercepted in lower third; in hind wing nervellus reclivous, straight, not intercepted, discoidella lacking.

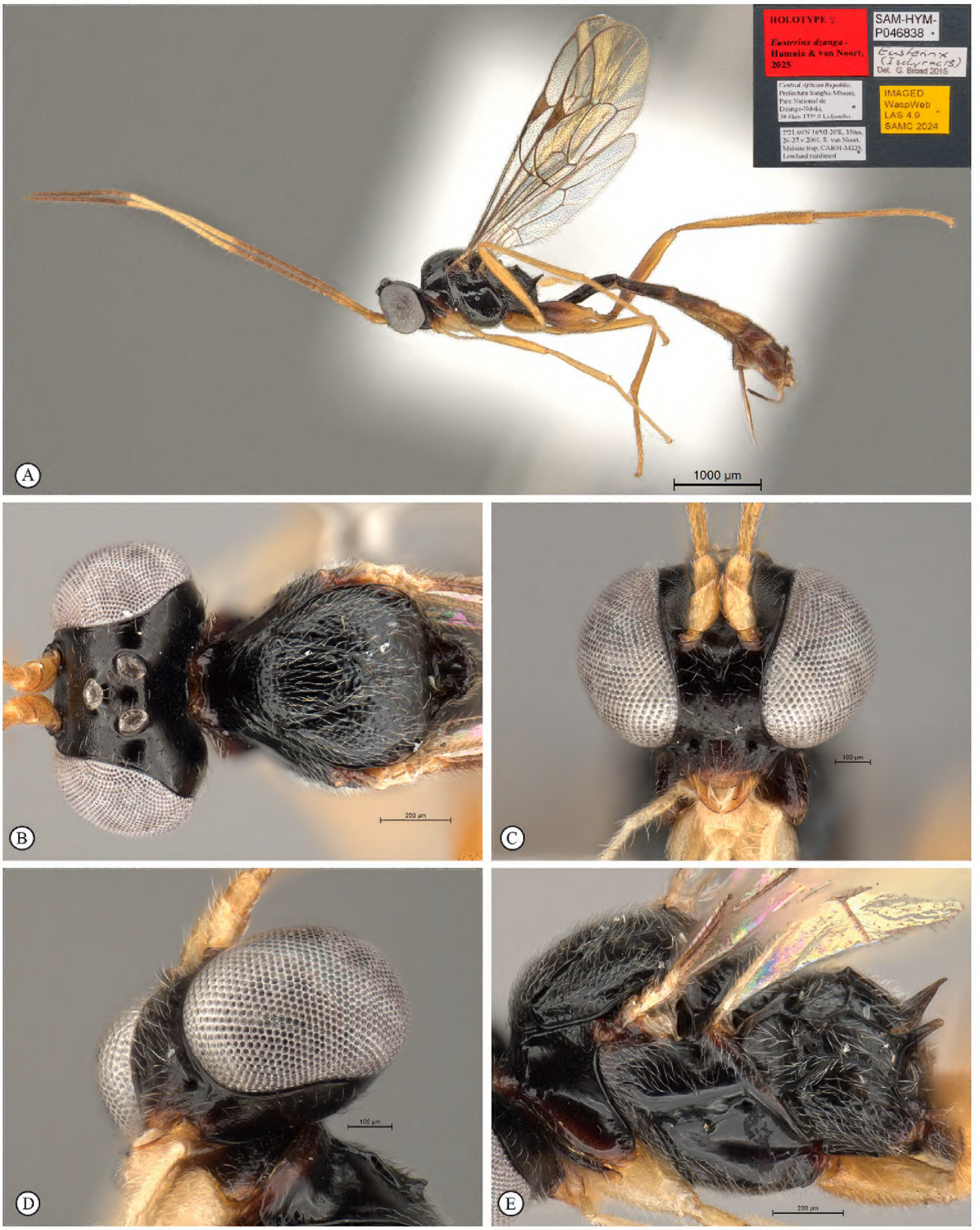


Figure 1. A–E *Eusterinx dzanga* sp. nov., female holotype **A** habitus, lateral view (inset: data labels) **B** head and mesoscutum, dorsal view **C** head, anterior view **D** head, anterolateral view **E** mesosoma, dorsolateral view.

Metasoma. T1 slender, 4.8× as long as maximum width posteriorly, petiole smooth dorsally in anterior third, posterior half and postpetiole with longitudinal striae; dorsal carina lacking; small spiracle at 0.55 of tergite, sternite fused with tergite, reaching 0.8 of tergite; T2 coriaceous, 2.15× as long as maximum width posteriorly with irregular

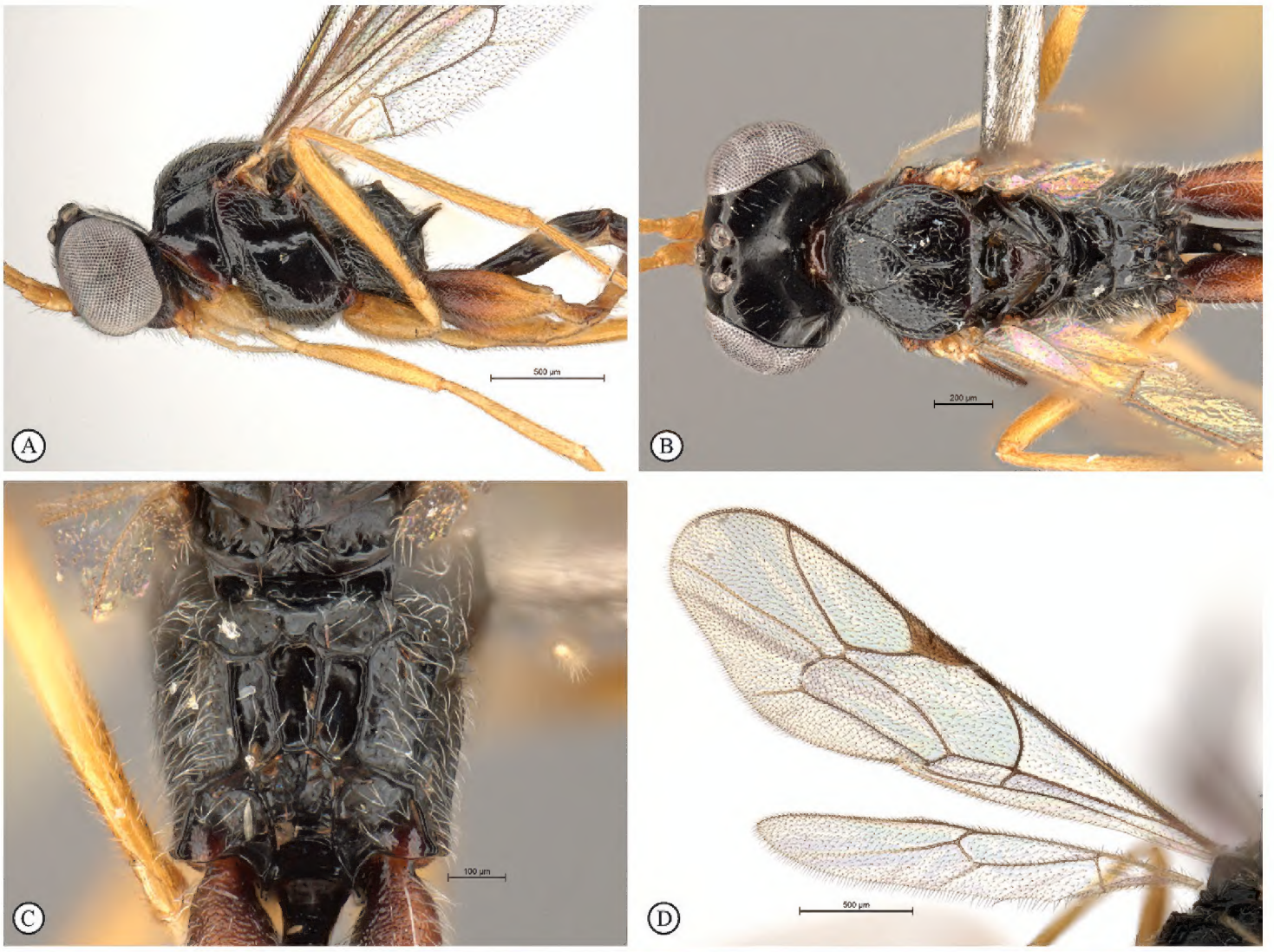


Figure 2. A–E *Eusterinx dzanga* sp. nov., female holotype **A** head and mesosoma, lateral view **B** head and mesosoma, dorsal view **C** propodeum, dorsal view **D** wings **E** metasoma, dorsal view.

longitudinal striae and oval thyridium offset from base by its length (Fig. 2E); T3 almost parallel-sided, with irregular longitudinal striae anteriorly; other tergites weakly granulate, with sparse setiferous punctures. Ovipositor nearly straight, tapered at apical quarter; ovipositor sheath about 0.27× as long as hind tibia.

Colour. Dark-brown; palps pale; apical part of clypeus, mandible, basal antennomeres, tegula and wing bases yellowish-brown; flagellum mostly brown, with flagellomeres 7–14 pale; metasoma predominantly brown, T1 and T2 dark-brown, posterior

margins of T1–T3 and T4 entirely yellowish (Fig. 1A). Fore and mid legs, hind trochanter and trochantellus yellowish, hind coxa in proximal half dark-brown, yellowish-brown distally, hind femur yellowish-brown, infuscate in proximal half, distal third of hind tibia and hind tarsus infuscate; ovipositor sheaths yellowish, darkened in apical half. Wings hyaline, veins including pterostigma brown.

Male. Unknown.

Comparison. Compared to other *Ischyracis* species that lack a closed areolet, the new species is characterized by strong apophyses (as long as hind femur width), slender hind legs, short ovipositor, and distinct light band on flagellum.

From allied *E. africana* and *E. kibale*, *E. dzanga* sp. nov. differs in larger size – body length 5.2 mm, fore wing length 3.3 mm (vs. 3.6 mm and 2.7 mm respectively in *E. africana*, and 3.5 mm and 2.7 mm respectively in *E. kibale*), wider area superomedia 1.9× as long as maximum width (vs. 2.4× in *E. africana*), slenderer T2 – 2.15× as long as wide posteriorly (vs. 1.35× in *E. africana*), and hind femur 6.3× as long as wide (vs. 5.3× in *E. africana*). Propodeal apophyses are as long as *E. kibale*, short in *E. africana*, *E. gamka* and *E. kirkwoodi*.

Distribution. Currently only known from Central African Republic.

Etymology. The species is named after the Dzanga-Ndoki National Park. Noun in apposition.

***Eusterinx* (*Ischyracis*) *gamka* van Noort & Humala, sp. nov.**

https://zoobank.org/F42EB529-C699-411C-9887-368DD3007EE0

Figs 3, 4

Material examined. ***Holotype*:** South Africa • ♀; Western Cape, Gamkaberg Nature Reserve; 33°39.941'S, 21°53.505'E; 315 m; 4 Oct 2010–25 Jan 2011; S. van Noort; Yellow pan trap; Gamka Thicket; GB09-SUC1-Y71; *Eusterinx* (*Ischyracis*) det. G. Broad 2015; IMAGED WaspWeb LAS 4.9, SAMC 2025; SAM-HYM-P059233 (SAMC).

Description. *Female* (holotype). Body length 3.9 mm (Fig. 3A), fore wing length 2.5 mm (Fig. 4D).

Head. Head 1.37× as wide as high in anterior view; eyes glabrous, large; inner orbits somewhat convergent downwards; face nearly polished with sparse setae; maximum face width at level of antennal sockets 1.4× as high, 0.4× as wide as head (Fig. 3E). Antenna with 24 flagellomeres, all flagellomeres longer than wide, except for terminal 3 flagellomeres which are c. as long as wide; first flagellomere 6× as long as wide; second flagellomere 0.73× as long as first flagellomere. Malar space about 1.2× as long as basal width of mandible, subocular sulcus distinct in proximal half; anterior tentorial pits open; clypeus convex, small, 0.75× as high as wide, apical margin strongly convex. Mandibles slender, strongly twisted inwards and tapered apically, lower tooth strongly reduced and invisible in front view. Maxillary palps very long, almost reaching middle coxa (Fig. 4A). Occiput polished; occipital carina present dorsally, absent laterally. Ocelli of moderate size; ratio of OOL : maximum diameter of lateral ocellus : POL as

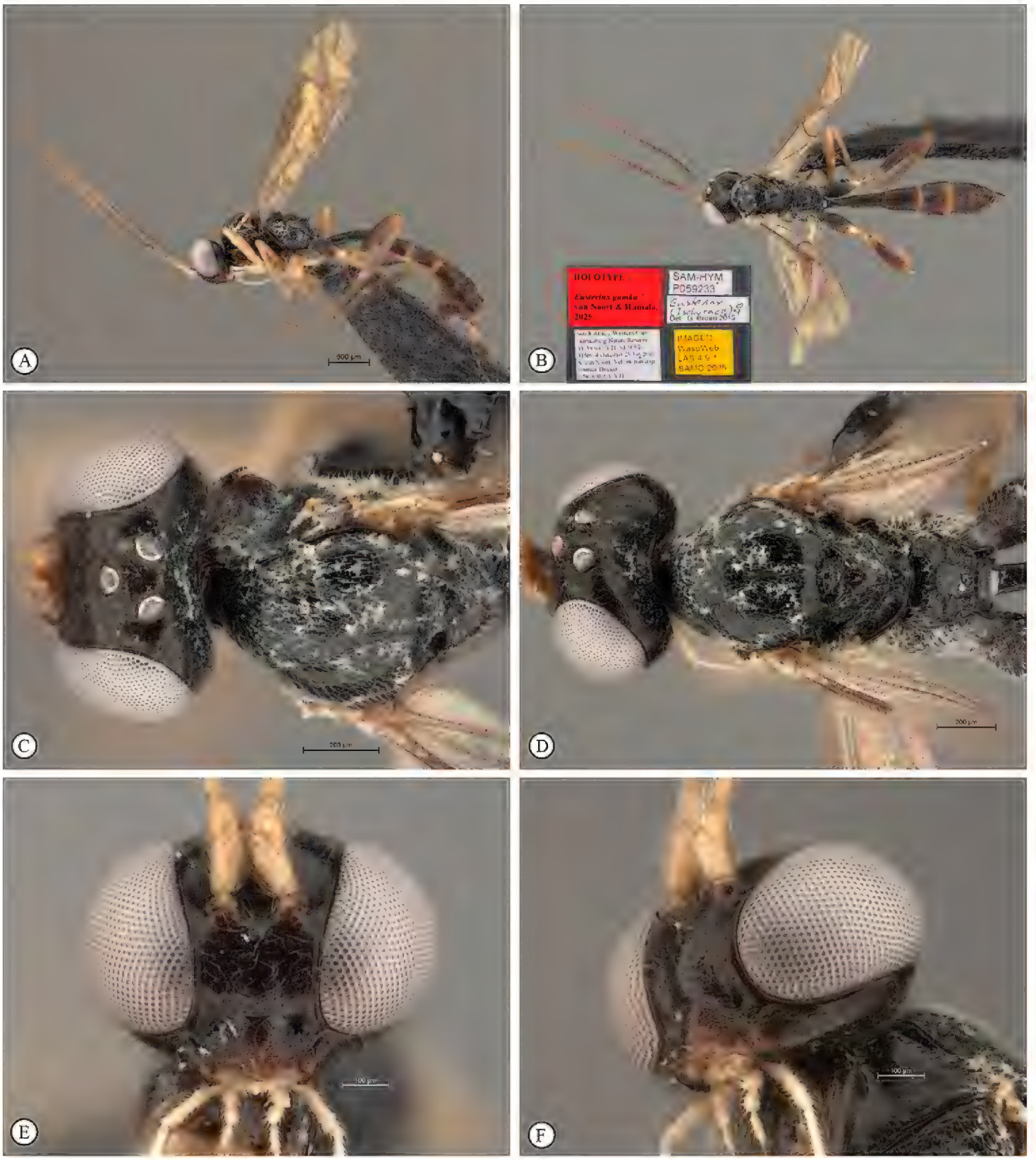


Figure 3. A–F *Eusterinx gamka* sp. nov., female holotype **A** habitus, lateral view **B** habitus, dorsal view (inset: data labels) **C** head and mesoscutum, dorsal view **D** head and mesosoma, dorsal view **E** head, anterior view **F** head, anterolateral view.

22 : 22 : 25 (Fig. 3C). Head distinctly narrowed behind eyes, temple short, 0.33× as long as eye width (Fig. 3C).

Mesosoma. Mesosoma 1.5× as long as maximum height; pronotum polished with strong epomia; mesoscutum finely punctured, covered with dense setae; notauli well developed as crenulated furrows, meeting in the center of mesoscutum (Fig. 3D) and continuing as a fine median longitudinal carina not reaching scutellum. Epicnemial carina complete ventrally, reaching half the height of the mesopleuron; mesopleuron

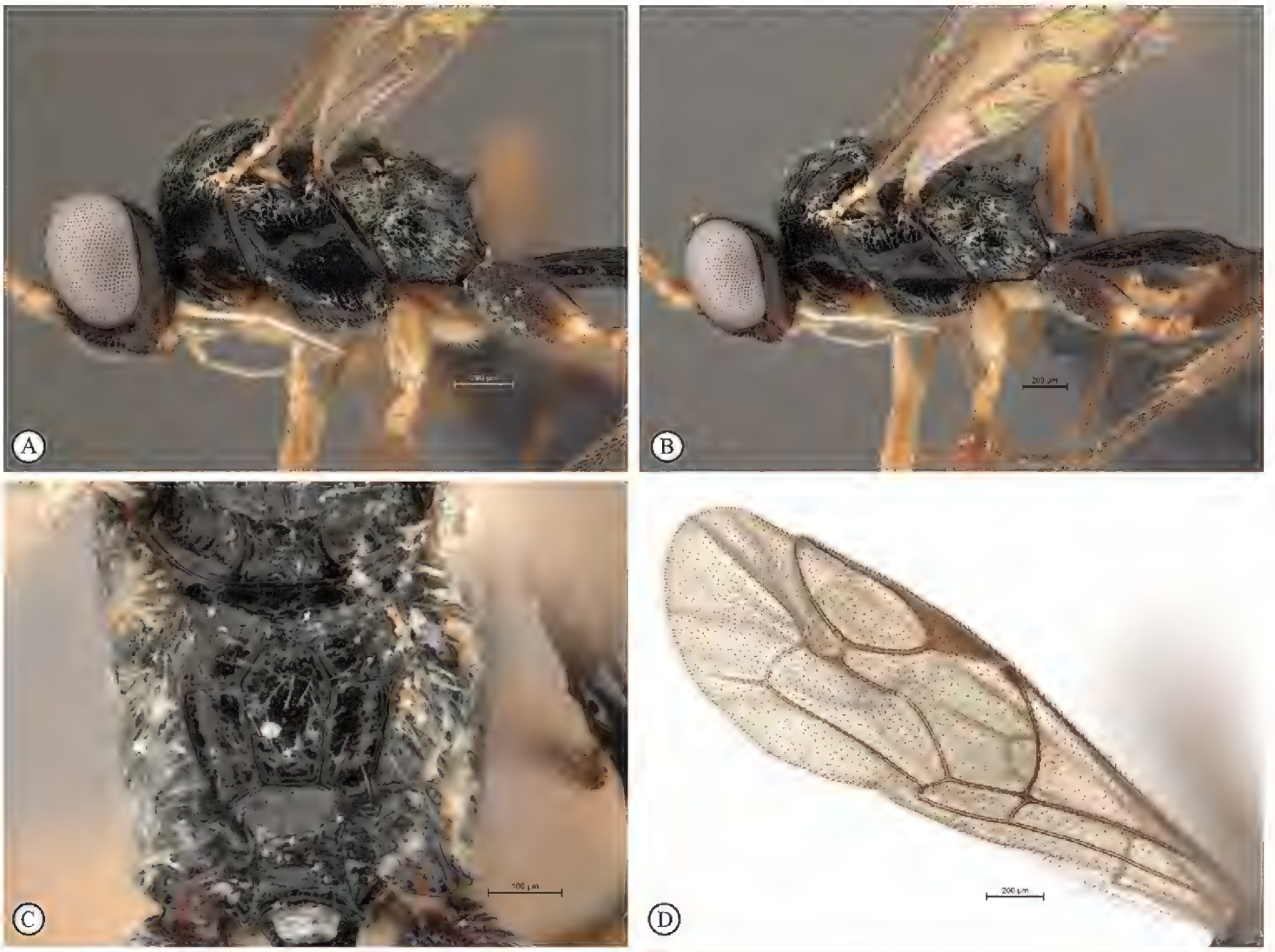


Figure 4. A–F *Eusterinx gamka* sp. nov., female holotype **A** head and mesosoma, lateral view **B** head, mesosoma, T1, lateral view **C** propodeum, dorsal view **D** wings **E** metasomal T1 & T2, dorsal view **F** metasoma, lateral view.

polished and mostly glabrous with short sternaulus; metapleuron granulate. Propodeum nearly smooth with all carinae developed except for anterior portions of dorsal longitudinal carinae, with a pair of strong, short apophyses flattened dorsoventrally formed by posterior transverse carina and lateral carinae (Fig. 4A, C); area basalis not developed; area superomedia 1.6× as long as maximum width and slightly narrowing posteriorly (Fig. 4C). Spiracles small and rounded.

Legs. Legs slender, hind coxa granulate, hind femur 4.0× as long as wide, tibial spurs short, hind basitarsus 0.4× as long as hind tibia; ratio of hind tarsomeres as 25 : 15 : 12 : 8 : 10; claws simple (Fig. 4F).

Wings. Fore wing without areolet (vein 3*rs-m* absent), radius (vein 2*r&Rs*) originates from middle of stigma, nervulus (vein 1*cu-a*) interstitial (Fig. 4D); postnervulus intercepted nearly in middle; in hind wing nervellus strongly reclivous, not intercepted, discoidella lacking.

Metasoma. T1 slender, 4.8× as long as maximum width posteriorly, with longitudinal striae; dorsal carina lacking; small spiracle at 0.4 of tergite (Fig. 4E); sternite fused with tergite, reaching 0.7 of tergite; T2 coriaceous, 1.6× as long as maximum width posteriorly, with irregular longitudinal striae in anterior 0.6, and weak small thyridium in dorsolateral corner (Fig. 4E); T3 weakly coriaceous to granulate, T4 granulate, T5 &T6 granulate to subpolished. Ovipositor nearly straight, tapered at apical third; ovipositor sheath 0.58× as long as hind tibia (Fig. 4F).

Colour. Head and mesosoma dark-brown to black; palps pale, basal antennomeres, tegula and wing bases yellowish; mandible, propleuron, lower pronotum reddish-brown; metasoma mostly dark brown, posterior margins of T2–T3 light brown (Fig. 3A). Fore and mid legs and hind trochanters yellowish, hind leg predominantly dark brown, excluding yellowish-brown trochanters (Fig. 3A); ovipositor sheaths yellowish, dark brown in apical half (Fig. 4F). Wings hyaline, veins including pterostigma brown (Fig. 4D).

Male. Unknown.

Comparison. The new species *E. gamka* sp. nov. differs from the closely related *E. kirkwoodi* and *E. africana* by the shape of the area superomedia – 1.6× as long as maximum width (vs. 1.3× in *E. kirkwoodi* and 2.4× in *E. africana*), hind tarsus distinctly longer as in *E. africana* (hind tarsus nearly as long as hind tibia in *E. kirkwoodi*), shorter malar space 1.2× (vs. 1.75× in *E. kirkwoodi* and 1.5× in *E. africana*).

Distribution. Currently only known from South Africa (Western Cape Province).

Etymology. The species is named after the type locality Gamkaberg which means "lion mountain" in Khoisan. Noun in apposition.

Eusterinx (*Ischyracis*) *kibale* van Noort & Humala, sp. nov.

https://zoobank.org/E3A4E06A-854E-47AE-B53E-A8128BE8D6F7

Figs 5, 6

Material examined. ***Holotype*:** Uganda • ♀; Kibale National Park, Kanyawara, Makerere University Biological Field Station; 1495 m; 0°33.996'N, 30°21.262'E; 5–12.viii.2005; S. van Noort; UG05-M15; Malaise trap; secondary mid-altitude rainforest; *Eusterinx* (*Ischyracis*) det. G. Broad 2015; IMAGED WaspWeb LAS 4.9 SAMC 2025; SAM-HYM-P061158 (SAMC).

Description. Female (holotype). Body length 3.5 mm, fore wing length 2.7 mm (Fig. 5A).

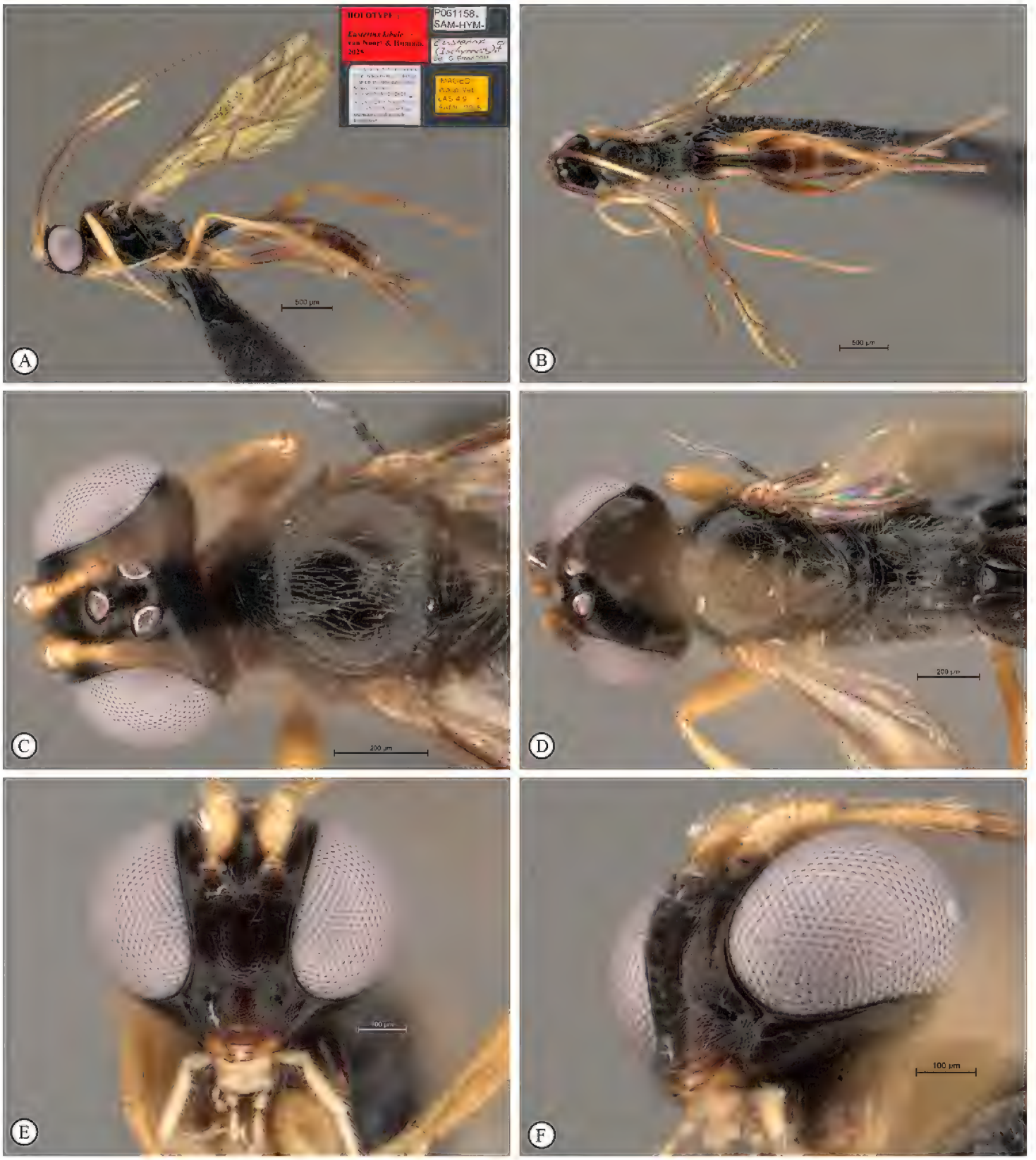


Figure 5. A–F *Eusterinx kibale* sp. nov., female holotype **A** habitus, lateral view (inset: data labels) **B** habitus, dorsal view **C** head and mesoscutum, dorsal view **D** head and mesosoma, dorsal view **E** head, anterior view **F** head, anterolateral view.

Head. Head 1.38× as wide as high in anterior view; eyes glabrous, large and strongly convex; frons shagreen with sparse setae; inner orbits strongly convergent downwards; face nearly polished with sparse setae; maximum face width at level of antennal sockets 1.12× as high, 0.41× as wide as head (Fig. 5E). Antenna with 22 elongate flagellomeres; first flagellomere ca. 7.0× as long as wide; second flagellomere 0.85× as long as first flagellomere. Malar space coriaceous, about 1.33× as long as basal width of mandible, subocular sulcus indistinct; anterior tentorial pits open; clypeus convex, 0.67× as high as wide. Mandibles slender, strongly twisted inwards and strongly tapered apically, lower

Figure 6. A–F *Eusterinx kibale* sp. nov., female holotype **A** head and mesosoma, lateral view **B** mesosoma, lateral view **C** propodeum, dorsal view **D** wings **E** metasomal T1, T2 & T3, dorsal view **E** metasomal T1, dorsal view.

tooth small (Fig. 5E). Maxillary palps very long, almost reaching hind coxa. Occiput weakly coriaceous to polished; occipital carina present dorsally, absent laterally. Ocelli of moderate size; ratio of OOL: maximum diameter of lateral ocellus : POL as 19 : 25 : 20 (Fig. 5C). Head distinctly narrowed behind eyes, temple short, 0.27× as long as eye width.

Mesosoma. Mesosoma 1.7× as long as maximum height; pronotum polished with distinct epomia; mesoscutum subpolished, covered with dense setae; notauli well developed, meeting in the centre of mesoscutum (Fig. 5C) and continuing as a short, median longitudinal carina not reaching scuto-scutellar groove. Notauli anteriorly with small

protrusion to the outside of the base (Fig. 6B); epicnemial carina complete ventrally, almost reaching upper part of the mesopleuron; mesopleuron polished and centrally glabrous with setae dorsally and antero-ventrally; short sternaulus anteriorly; metapleuron polished (Fig. 6B). Propodeum nearly smooth with all carinae developed and with a pair of strong apophyses formed at the junction of lateral longitudinal carina and posterior transverse carina (Fig. 6B, C). Apophyses somewhat flattened dorsoventrally and rounded apically, as long as hind femur width. Anterior transverse carina forming a crest; area basalis not closed anteriorly, area superomedia elongate, narrowing posteriorly, 2.0× as long as maximum wide (Fig. 6C). Spiracles round and small (Fig. 6B).

Legs. Legs very slender, hind coxa granulate, hind femur 5.7× as long as wide, tibial spurs short and slender, hind basitarsus 0.4× as long as hind tibia; ratio of hind tarsomeres as 39 : 23 : 18 : 11 : 19 (Fig. 5A); claws simple.

Wings. Wings comparatively narrow (Fig. 6D). Fore wing without areolet (vein *3rs-m* absent), radius (vein *2r&Rs*) originates from posterior 0.6 of stigma, nervulus (vein *1cu-a*) slightly antefurcal, postnervulus intercepted in lower third; in hind wing nervellus reclivous, straight, not intercepted, discoidella lacking.

Metasoma. T1 slender, 4.2× as long as maximum width posteriorly, petiole with narrow smooth dorsal area, laterally in postpetiole with longitudinal striae; dorsal carina lacking; small spiracle at 0.47 of tergite, sternite fused with tergite, reaching 0.73 of tergite; T2 coriaceous, 1.5× as long as maximum width, with irregular longitudinal striae anterolaterally, remaining portion weakly coriaceous with polished medial dorsal section; oval thyridium offset from the base by its length and a half (Fig. 6E); T3 almost parallel-sided, weakly coriaceous to polished medially; other tergites subpolished. Ovipositor nearly straight, tapered at apical fifth; ovipositor sheath about 0.4× as long as hind tibia.

Colour. Head and mesosoma black; palps pale; apical part of clypeus, mandible orange brown; basal antennomeres, and wing bases yellowish-brown; flagellum mostly brown, with flagellomeres 11–14 pale; metasoma predominantly brown, T1 black, T2 dark-brown, posterior margins of T3 yellowish. Fore and mid legs, hind trochanter and trochantellus yellowish, hind coxa in proximal half dark-brown, yellowish-brown distally, hind femur brown, infuscate with yellow in distal half, distal third of hind tibia and hind tarsus brown; ovipositor sheaths brown, darkened in apical two-fifths. Wings hyaline, veins including pterostigma brown.

Male. Unknown.

Comparison. Compared to other *Ischyracis* species that lack a closed areolet, the new species is characterized by strong apophyses (as long as hind femur width), slender hind legs, short ovipositor, and distinct, but short pale band on flagellum (segments 11–14).

Allied to *E. dzanga* sp. nov. which differs in larger size – body length 5.2 mm, fore wing length 3.3 mm (vs. 3.5 mm and 2.7 mm respectively in *E. kibale*); T2 1.5× as long as wide posteriorly (vs. 2.15× in *E. dzanga*; 1.35× in *E. africana*), and hind femur 5.7× as long as wide (vs. 6.3× in *E. dzanga*; 5.3× in *E. africana*). Propodeal apophyses are as long as *E. dzanga*, short in *E. africana*, *E. gamka* and *E. kirkwoodi*.

Distribution. Currently only known from Uganda.

Etymology. The species is named after the type locality, Kibale National Park. Noun in apposition.

***Eusterinx* (*Ischyracis*) *kirkwoodi* Humala & van Noort, sp. nov.**
https://zoobank.org/F598B4BA-C5AB-4998-B548-8A7CF5E49A17
Figs 7, 8

Material examined. ***Holotype*:** South Africa • ♀; E. Cape, Mannetjie Farm (31.9 km 262° W Kirkwood); 33°32.724'S, 25°08.795'E; 14–16 Feb. 2001; S. van Noort leg.; Malaise trap, VB01-R3N-M50, Valley Bushveld (non-trashed), *Eusterinx* (*Ischyracis*) det. G. Broad 2016, IMAGED WaspWeb LAS 4.9 SAMC 2024; SAM-HYM-P041737 (SAMC).

***Paratype*:** South Africa • ♀; E. Cape, Blauwe Krans Farm (12.8 km 216° SW Kirkwood); 33°30.747'S, 25°24.644'E; 9–16 Feb. 2001; S. van Noort leg.; Yellow pan trap, VB01-A3N-Y55; Valley Bushveld (non-trashed); *Eusterinx* (*Ischyracis*) det. G. Broad 2016; SAM-HYM-P041738 (SAMC).

Description. Female (holotype). Body length 4.4 mm, fore wing length 3.0 mm (Fig. 7A).

Head. Head 1.33× as wide as high in anterior view; eyes glabrous, large; inner orbits somewhat convergent downwards; face nearly polished with sparse setae; maximum face width at level of antennal sockets 1.3× as high, 0.4× as wide as head (Fig. 7C). Antenna with 24 flagellomeres, all flagellomeres longer than wide; first flagellomere 5.3× as long as wide; second flagellomere 0.85× as long as first flagellomere. Malar space about 2.0× as long as basal width of mandible, subocular sulcus indistinct; anterior tentorial pits open; clypeus convex, small, narrow, 0.65× as high as wide, apical margin nearly straight. Mandibles slender, strongly twisted inwards and tapered apically, lower tooth strongly reduced and invisible in front view. Maxillary palps very long, almost reaching middle coxa. Occiput polished; occipital carina present dorsally. Ocelli of moderate size; ratio of OOL : maximum diameter of lateral ocellus : POL as 19 : 22 : 23 (Fig. 7B). Head distinctly narrowed behind eyes, temple short, 0.25× as long as eye width.

Mesosoma. Mesosoma 1.35× as long as maximum high; pronotum polished with strong epomia; mesoscutum finely punctured, covered with dense setae; notauli well developed as crenulated furrows, meeting in center of mesoscutum and continuing as a fine median longitudinal carina not reaching scutellum (Fig. 8B). Epicnemial carina complete ventrally, reaching half height of mesopleuron; mesopleuron polished and mostly glabrous with short sternaulus; metapleuron granulate. Propodeum nearly smooth with all carinae developed except for anterior portions of dorsal longitudinal carinae, with a pair of strong apophyses flattened dorsoventrally formed by posterior transverse carina and lateral carinae (Figs 7E, 8A); area basalis not developed; area superomedia 1.3× as long as maximum width and slightly narrowing posteriorly (Fig. 8C). Spiracles small and rounded.

Legs. Legs slender, hind coxa granulate, hind femur 5.0× as long as wide, tibial spurs short, hind basitarsus 0.4× as long as hind tibia; ratio of hind tarsomeres as 35 : 20 : 14 : 9 : 13; claws simple.

Wings. Fore wing without areolet (vein 3*rs-m* absent), radius (vein 2*r&Rs*) originates from middle of stigma, nervulus (vein 1*cu-a*) interstitial (Fig. 8D); postnervulus intercepted nearly in middle; in hind wing nervellus strongly reclivous, not intercepted, discoidella lacking.

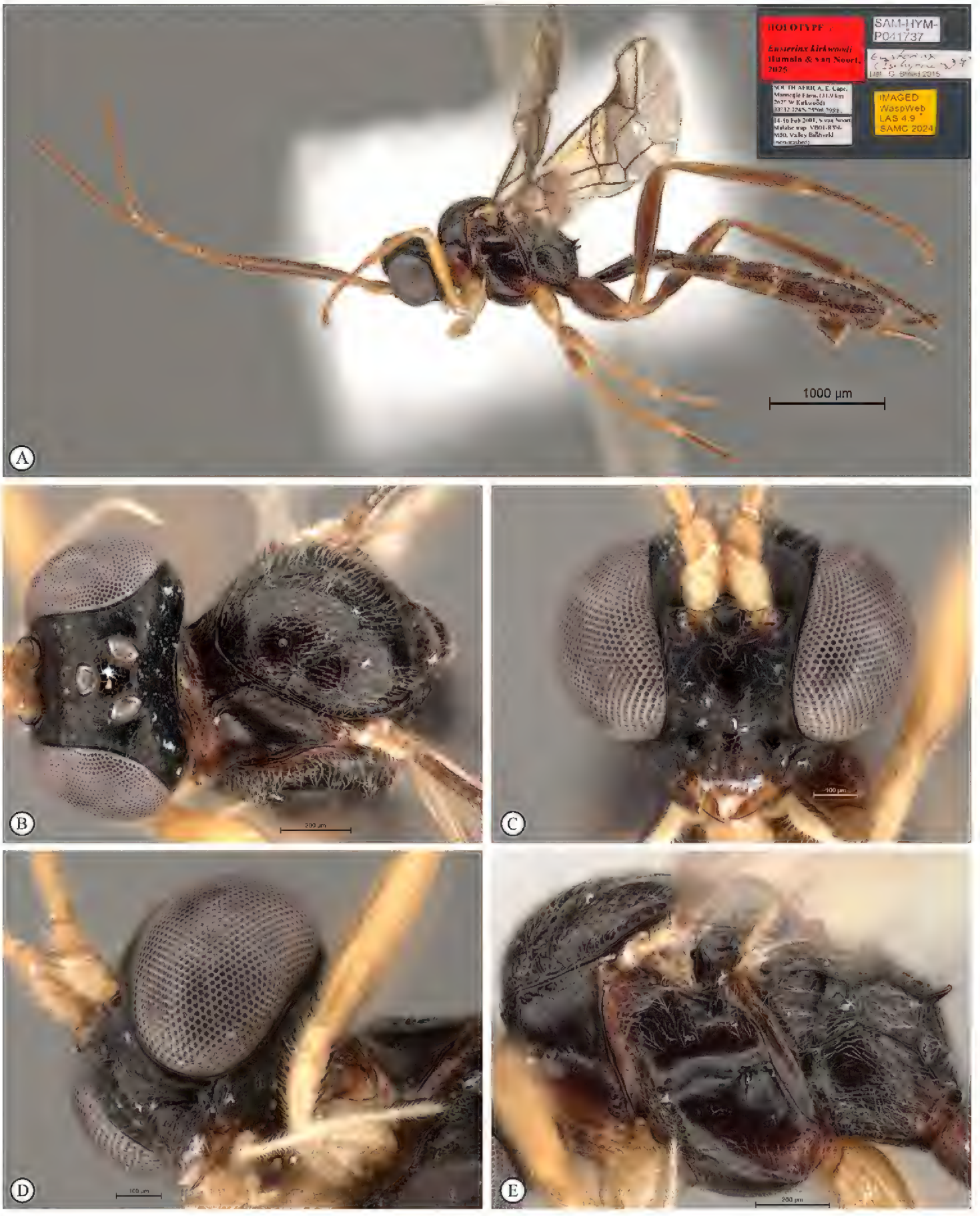


Figure 7. *Eusterinx kirkwoodi* sp. nov., female holotype **A** habitus, lateral view (inset: data labels) **B** head and mesoscutum, dorsal view **C** head, anterior view **D** head, anterolateral view **E** mesosoma, lateral view.

Metasoma. T1 slender, 4.1× as long as maximum width posteriorly, with longitudinal striae; dorsal carina lacking; small spiracle at 0.5 of tergite, sternite fused with tergite, reaching 0.67 of tergite; T2 coriaceous, 1.4× as long as maximum width posteriorly, with irregular longitudinal striae in anterior 0.8, and weak small thyridium

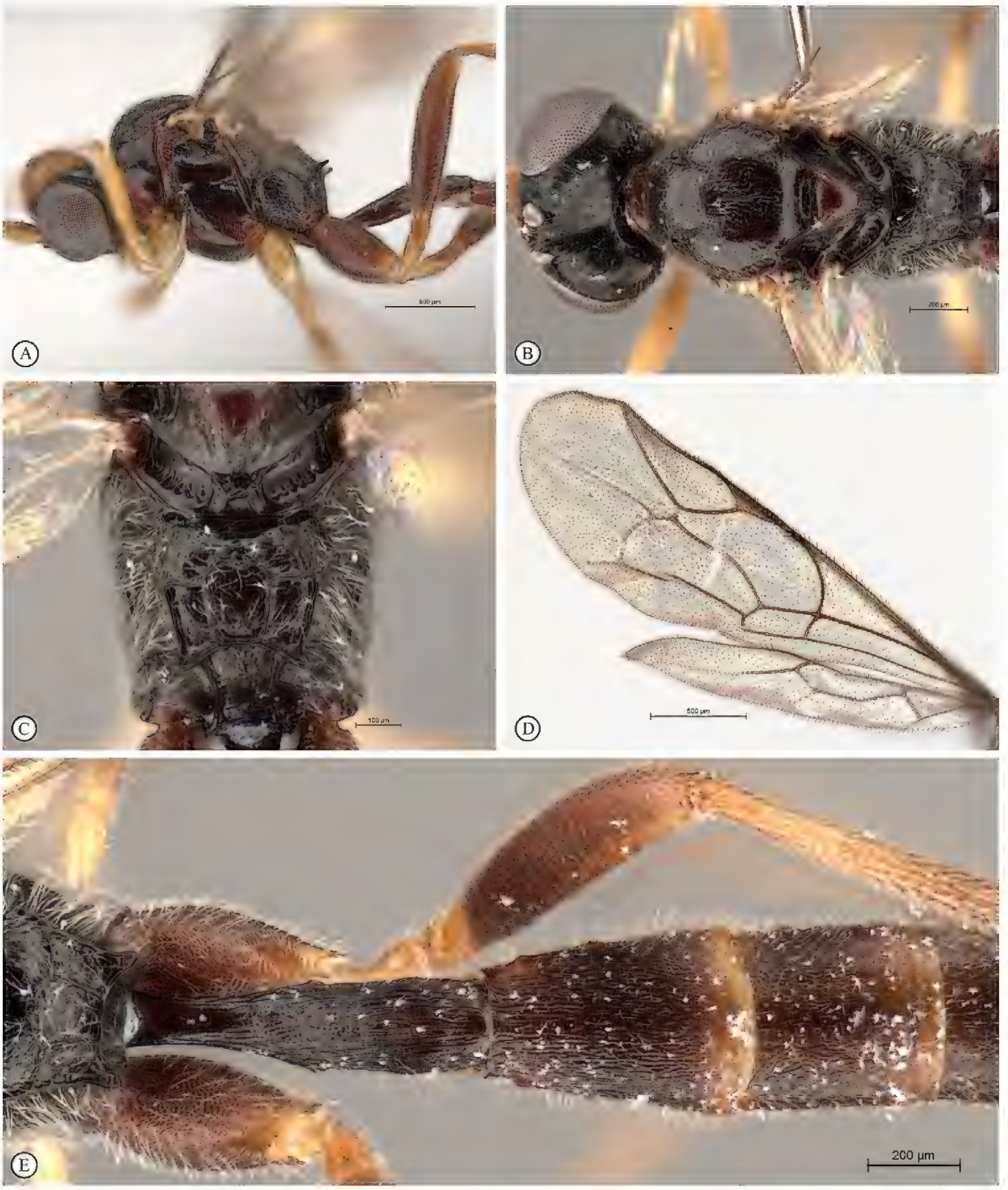


Figure 8. *Eusterinx kirkwoodi* sp. nov., female holotype **A** head and mesosoma, lateral view **B** head and mesosoma, dorsal view **C** propodeum, dorsal view **D** wings **E** metasoma, basal tergites, dorsal view.

in dorsolateral corner (Fig. 8E); T3 weakly coriaceous to granulate, T4 granulate, T5 &T6 granulate to subpolished. Ovipositor nearly straight, tapered at apical quarter; ovipositor sheath about 0.5× as long as hind tibia.

Colour. Dark-brown; palps pale, basal antennomeres and wing bases yellowish; mandible, tegula, propleuron, lower pronotum and epicnemium reddish-brown; metasoma mostly dark brown, posterior margins of T2–T3 light brown

(Fig. 7A). Fore and mid legs and hind trochanters yellowish, hind leg predominantly dark brown, excluding yellowish-brown trochanters and distal third of hind tibia; ovipositor sheaths yellowish, darkened in apical half. Wings hyaline, veins including pterostigma brown.

Male. Unknown.

Variation. There is no variation between the two known specimens. The paratype matches the holotype with respect to size and character states.

Comparison. The new species *E. kirkwoodi* sp. nov. differs from the closely related *E. africana* by its larger size – body length 4.4 mm, fore wing length 3.0 mm (vs. 3.6 mm and 2.7 mm, respectively, in *E. africana*), OOL shorter than maximum diameter of lateral ocellus (OOL longer in *E. africana*), shorter mesosoma – 1.35× as long as high (vs. 1.55× in *E. africana*), lower degree of convergence of inner orbits (strongly convergent to clypeus in *E. africana*), wider area superomedia – 1.3× as long as maximum width (vs. 2.4× in *E. africana*), hind tarsus nearly as long as hind tibia (distinctly longer in *E. africana*).

Distribution. Currently only known from South Africa (Eastern Cape province).

Etymology. The species is named after the closest town to the type localities of both specimens. Noun in apposition.

Eusterinx (*Ischyracis*) unplaced males

Fig. 9

Material examined. Central African Republic • ♂; Prefecture Sangha-Mbaéré, Parc National de Dzanga-Ndoki, Mabéa Bai, 21.4 km 53° NE Bayanga; 3°02.01'N, 16°24.57'E; 510 m; 6.v.2001; S. van Noort; Sweep; CAR01-S45; Lowland Rainforest, marsh clearing; *Eusterinx* (*Ischyracis*) ♂ det. G. Broad 2015; IMAGED WaspWeb LAS 4.9 SAMC 2025; SAM-HYM-P058451 (SAMC).

Uganda • ♂; Kibale National Park, Kanyawara, Makerere University Biological Field Station, 1495 m, 0°33.996'N, 30°21.262'E; 30vii-5viii.2005; S. van Noort; UG05-Y30; Yellow pan trap; Secondary mid-altitude Rainforest; *Eusterinx* (*Ischyracis*) ♂ det. G. Broad 2015; IMAGED WaspWeb LAS 4.9 SAMC 2025; SAM-HYM-P058404 (SAMC).

Comments. Unplaced males. We examined the above two males from central Africa but are unable to match them to their respective females. They differ markedly from the associated females collected in the same rainforest localities in Central African Republic and Uganda, particularly with respect to presence or absence of banding on the antennae, and relative size of the propodeal apophyses, for both of which they are more typical of the South African species associated with arid habitats. There is clearly sexual dimorphism present in the genus exacerbating reliable matching of the sexes and a barcoding analysis will be required to facilitate resolving conspecifics across the sexes in this genus.

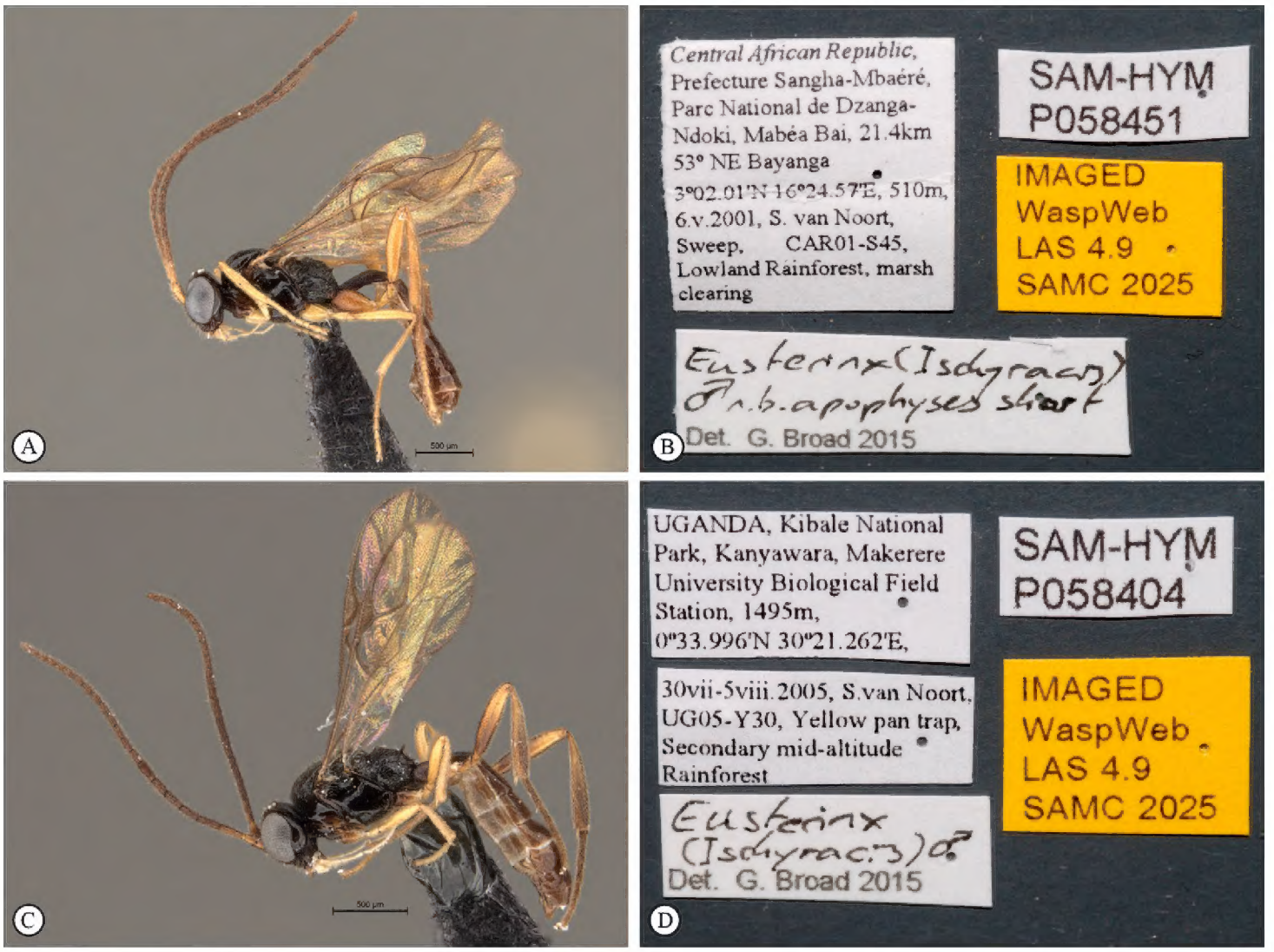


Figure 9. A–D *Eusterinx* unplaced males **A** habitus (CAR), lateral view **B** data labels **C** habitus (Uganda), lateral view **D** data labels.

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